

What is claimed is:

1. A patch for placing against a tissue within a mammalian, the patch comprising:
 - at least one layer of a biocompatible polymer;
 - 5 at least one layer of a biocompatible superelastic/shape memory material; and
 - at least one layer of a biocompatible adherent material.
2. The patch of claim 1, wherein the superelastic/shape memory material comprises a nickel titanium alloy.
- 10 3. The patch of claim 2, wherein the alloy comprises Nitinol.
4. The patch of claim 1, wherein the superelastic/shape memory material has a curved configuration in a resting state.
- 15 5. The patch of claim 1, further comprising barbs extending from the superelastic/shape memory material.
6. The patch of claim 5, further comprising a power source connected to the patch and configured to provide power to the barbs.
- 20 7. The patch of claim 1, wherein the layer of superelastic/shape memory material is encapsulated by the polymer.
- 25 8. The patch of claim 1, wherein the patch is intended to close an opening in the vessel.
9. The patch of claim 1, wherein the patch comprises multiple arms and a base configured to form a concave shape.

10. The patch of claim 9, further comprising one or more barbs extending from the arms.

11. The patch of claim 1, further comprising a deployment device configured 5 to deploy the patch, the deployment device comprising a handle and a deployment section, the deployment section configured to retain the patch for delivery of the patch to the vessel.

12. The patch of claim 11, wherein the deployment section includes a pair of 10 openable jaws.

13. The patch of claim 11, wherein the deployment section includes a surface configured to apply a vacuum.

15 14. A method of applying a patch to a tissue surface within a mammalian body, the method comprising:

retaining the patch to a deployment device;
advancing the deployment device to the tissue surface;
pressing the patch against the tissue surface; and

20 manipulating the deployment device to separate the deployment device from the patch and leave the patch against the tissue surface,

wherein the patch comprises at least one layer of a biocompatible polymer, at least one layer of a biocompatible superelastic/shape memory material; and at least one layer of a biocompatible adherent material, and

25 the deployment device comprises a handle section and a deployment section, the deployment section configured to retain the patch for delivery of the patch to the tissue surface.

15. The method of claim 14, wherein retaining the patch to the deployment 30 device comprises using an adhesive to retain the patch to the deployment device.

16. The method of claim 14, wherein retaining the patch to the deployment device comprises applying vacuum to the patch.

17. The method of claim 14, wherein manipulating the deployment device to 5 separate the deployment device from the patch comprises moving the deployment device relative to the tissue surface to which the patch is applied.

18. The method of claim 14, wherein manipulating the deployment device to 10 separate the deployment device from the patch comprises advancing a plunger within the deployment device.

19. The method of claim 14, wherein manipulating the deployment device to separate the deployment device from the patch comprises opening a pair of jaws in the deployment section.

15

20. The method of claim 14, wherein the patch comprises one or more arms, a base, and barbs extending from the arms, and advancing the deployment device to the tissue surface comprises advancing the deployment device to the tissue surface of the heart.

20